

Researchers of Indigenous Medicine

National Forum Report

23 September 2009

Brisbane, Queensland



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hosted by the University of Western Sydney**

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NICM would like to acknowledge the following for their assistance with the 2009 Researchers of Indigenous Medicine Forum

Professor Gerard Bodeker
Emeritus Professor MaryAnn Bin-Sallik
Ms Syvilla Boon

Foundation partners

The National Institute of Complementary Medicine was established in June 2007 with seed funding from the Australian Government through the Department of Health and Ageing and the NSW Government through the Office for Science and Medical Research, Department of State and Regional Development to provide leadership and support for nationally coordinated and strategically directed research into complementary medicine and translation of evidence into clinical practice and relevant policy to benefit the health of all Australians. Hosted by the University of Western Sydney at its Campbelltown campus, our role includes working with national and international partners to identify and develop sources of accurate information on complementary medicines and practices, including evidence of safety, efficacy and cost-benefits.

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Executive Summary

The National Institute of Complementary Medicine (NICM) hosted a researcher-focused forum on research of Indigenous Medicine on Wednesday, 23 September 2009 in Brisbane, Queensland. Co-chaired by Professor Gerard Bodeker, Global Initiative for Traditional Systems of Health, Oxford University and by Professor Michael Reid, Director-General, Queensland Health; the forum was the culmination of preliminary consultations with researchers of Indigenous Medicine commissioned by NICM. The event was the first of a planned two stage process, the second stage consisting of a broader forum engaging Indigenous communities either interested or already participating in research of Indigenous Medicine, to be held mid-2010. This second stage is subject to feedback from the September 2009 forum and further consultation with key Indigenous leaders and agencies.

Objectives

The objectives of the forum were to bring together a preliminary group of researchers of Indigenous Medicine to discuss interests, opportunities and key issues affecting research in this field, which included:

- Appropriate engagement with Indigenous communities.
- Knowledge, benefits and rights protection.
- Links between researchers working in this field.
- Funding cycles and sources.
- Commercial pathways and outcomes for interested Indigenous communities.

Discussion

There was a high degree of consensus within the forum on the objectives, process and directions arising from the meeting. Participants at the forum emphasised that:

- Building longstanding relationships with Indigenous communities is critical to research.
- Research may be undertaken for a range of reasons, including retention of knowledge within a community; for cultural, educational and social development; health care; employment and commercial potential.
- Research should be driven by the interests of and benefits for Indigenous communities, rather than those of researchers, with trust, respect and cross-cultural understanding being the core values of any partnership with an Indigenous community.
- There is a need for but a lack of formal linkages to support researchers and communities working in Indigenous Medicine research in Australia.
- There is a need for additional funding for research into Indigenous Medicine and funding that is structured to take into account the timing, processes and approach (including relationship development) that are critical to this sector.
- Historically, Indigenous Medicine knowledge and rights have been protected through secrecy and scaled access to knowledge through the oral tradition. Some communities have contributed to the development of databases and written records, in addition to an oral tradition. Difficulties emerge, however, in utilising the intellectual property (IP) system to protect community rights to Indigenous Medicine, particularly with respect to deriving commercial benefit, in Australia and internationally. Recent symposia have focused on the use of voluntary certification systems such as Fair Trade labelling as a means of commercialising knowledge that would protect and benefit community interests. It was agreed that further work was needed on IP issues and options and for developing better pathways and models for commercialisation for those communities interested in pursuing this option.

Outcomes

Participants developed, and strongly agreed upon, the following as outcomes from the forum:

- Establishment of a consortium to link researchers, communities and interested others that would provide a vehicle for activities such as sharing knowledge and information; guiding research activities; identifying and sharing key resources; and leading development of issues papers. The consortium should articulate a set of operating principles and consider a working group structure to reflect and pursue various aspects of research of Indigenous Medicine (e.g. education; health; IP; commercial/enterprise development.)
- Establishment of a Foundation to fund research of Indigenous Medicine that would develop partnerships and garner resources from a range of public and private sources.
- Development of an IP issues paper.
- Work towards an initial consortium meeting in 2010, possibly in Alice Springs to align with and take advantage of the 2010 Cooperative Research Centre Association meeting being held there in May 2010.

Next steps

To achieve the forum goals, it was agreed that:

- NICM meet with the lead Indigenous agencies identified by the forum to determine their interest in the outcomes and seek advice on appropriate processes and strategies to give effect to them.
- The National Aboriginal Community Controlled Health Organisation (NACCHO) was identified as the appropriate first point of contact, and this meeting would be facilitated by Professor Bin-Sallik.
- Other individuals and agencies that should be consulted in the first developmental stage include:
 - The Desert Knowledge Cooperative Research Centre (DKCRC)
 - The Cooperative Research Centre for Aboriginal Health (CRAH)
 - The Hon Jenny Macklin MP, Minister for Families, Housing, Community Services and Indigenous Affairs
 - Indigenous Business Australia (IBA)
 - Indigenous Land Corporation (ILC)
- NICM would provide a progress report back to forum participants in December 2009.

Introduction

The National Institute of Complementary Medicine (NICM) hosted a researcher-focused forum on research of Indigenous Medicine on Wednesday, 23 September 2009 in Brisbane, Queensland. The forum was co-chaired by Professor Gerard Bodeker, Global Initiative for Traditional Systems of Health, Oxford University and by Professor Michael Reid, Director-General, Queensland Health.

The objectives of the forum were to bring together a preliminary group of researchers of Indigenous Medicine to discuss interests, opportunities and key issues affecting research in this field, which included:

- Appropriate engagement with Indigenous communities.
- Knowledge, benefits and rights protection.
- Links between researchers working in this field.
- Funding cycles and sources.
- Commercial pathways and outcomes for interested Indigenous communities.

Background

NICM was established in June 2007 with seed funding from the Australian and NSW Governments and is hosted by the University of Western Sydney. The Institute was established to provide leadership and support for nationally coordinated and strategically directed research into complementary medicine and the translation of evidence into clinical practice and policy to benefit the health of all Australians. 'Complementary medicine' may incorporate traditional, alternate, complementary or integrative medicine knowledge and practices and, as a corollary, includes the traditional medicine of Australian Aboriginal and Torres Strait Islander peoples. For the purpose of these notes, the traditional medicine of the Aboriginal and Torres Strait Islander peoples who are native to Australia will be referred to as Indigenous Medicine.

As part of its capacity building remit, NICM sought to identify issues relevant to researchers of Indigenous Medicine and the communities that they work with, and following this, initiatives (if any) that could be undertaken to support researchers and communities with associated health, economic and educational opportunities directed to the benefit of traditional owners. NICM began this process in early 2009 by undertaking a short search of researchers working in the field (nationally and internationally), followed by e-mail and telephone interviews to map activity, capacity, resources and issues. This culminated in an issues paper, a nascent resource compendium and plans for a national forum. A copy of the issues paper is contained in the Appendices.

At the time the national forum was initially conceived, it was intended that the forum would be co-hosted with an Indigenous research agency and NICM would have consulted with researchers and the communities that they were working with, the latter subject to advice about the appropriate process for engagement. However, as both NICM and its potential partner were in the process of seeking refunding, it was decided following further advice that a two stage process would be undertaken, commencing with a researcher-focused forum, including invitations to key Indigenous-led or controlled organisations and researchers. Subject to feedback from the forum and broader input with key Indigenous leaders and agencies, the second stage would engage more broadly with Indigenous communities either interested or already participating in Indigenous medicine research. It was proposed this second meeting occur in mid-2010.

Chairs

The forum was co-chaired by Professor Gerry Bodeker, Global Initiative for Traditional Systems of Health, Oxford University and by Mr Michael Reid, Director-General, Queensland Health.

Professor Gerry Bodeker

Professor Gerry Bodeker, an Australian, whose doctoral studies were at Harvard, is a senior faculty member in public health in the University of Oxford, and Adjunct Professor of Epidemiology at Columbia University, New York. He is chair of the Oxford-based Global Initiative for Traditional Systems of Health and has been Chair of the Commonwealth Working Group on Traditional, Complementary and Alternative Medicine (TCAM). Professor Bodeker has worked on traditional medicine and medicinal plant conservation for a number of United Nations agencies, for which he has produced two UN books. He is Editor-in-Chief of the WHO Global Atlas on TCAM, 2005; co-editor of an Imperial College Press book, on Policy and Public Health Perspectives on TCAM, 2007; Senior Editor of the Journal of Alternative and Complementary Medicine; and an editor of the Oxford University Press journal, E-CAM. He chairs an international research partnership on medicinal plants and malaria; and has written on traditional medicine and refugee health at the Thai-Burma border. Professor Bodeker works with the Government of Malaysia on TCAM policy and research. He is author of the chapter on The Health Care of Indigenous Peoples/Nations in the International Encyclopaedia of Public Health (2008).

Professor Michael Reid

Mr Michael Reid has had many years of experience in both the public and private sectors. For five years until 2002 he held the position as Director-General of NSW Health in Australia. Subsequent to that, he was Director of the Policy and Practice Program at the George Institute for International Health, University of Sydney, principally working with the Chinese Ministry of Health. In 2006 he was appointed as Director General of the Ministry for Science and Medical Research in New South Wales with responsibility for planning and coordinating science, innovation and medical research in the State. In January 2008 he took up a short term position as Chief of Staff to the Australian Minister for Health, Nicola Roxon, primarily to initiate national health reform. He was appointed Director-General of Queensland Health in June 2008. He holds Adjunct Professorships in the Faculty of Medicine at the University of Western Sydney.

Introductory Remarks

Professor Alan Bensoussan, Ms Suzanne Pierce and Ms Syvilla Boon from NICM provided some introductory remarks on the role of NICM, particularly with respect to Indigenous Medicine research; the researcher-focused consultations completed to date; and the broader (international) context in which the forum was being held.

Currently, there is no national Indigenous Medicine research strategy or agenda. However, Australia is a signatory to The Beijing Declaration on Traditional Medicine, 2008, a copy of which is attached at Appendix 2.

Drafted on the 30th anniversary of the Alma-Ata Declaration that called upon countries to include and recognize traditional medicine in their primary health systems, The Beijing Declaration commits Australia to:

- Respecting, preserving and promoting traditional medicine.
- Developing relevant policies and regulations to ensure appropriate, safe and effective use of traditional medicine.
- Integrating traditional medicine where feasible.
- Undertaking relevant research and innovation in the field.
- Establishing systems for practitioner accreditation and licensing.
- Strengthening relevant communication and training for all health professionals.

Participant Interests

Participant comments about their background and interests reflected a diversity of opportunity and activity. This included:

- Collection, description and analysis of Australian indigenous plants, including their medicinal value. It was noted that less than 2% of Australian plants had been explored, in comparison with an international average of 12.5% and rates of 20% in countries such as China with a written history of use.
- Improving Indigenous scientific education through Indigenous plant medicine research, and inter-generational community development flowing from the process.
- Interest in establishing a college of (Australian) Indigenous Medicine Practitioners.
- Use of traditional plants and practices in current healthcare practice, either alone or in conjunction with mainstream western medical practice. While examples exist, the rate of research on the value of using Australian Indigenous Medicine for improved population health appears very low, by contrast with other countries.
- ARC funded project on IP systems and use/challenges when applied to traditional medicine.
- Improving mainstream pharmacists' knowledge and understanding of traditional medicine.

In addition to issues already formally on the agenda, participant feedback also identified the following issues:

- Difficulties in obtaining permits to study Australian plants (creating disincentives to researchers to pursue this field).
- Concern at allowing overseas companies to export plant and materials for research and ultimate commercial benefit, to the detriment of traditional owners who are then by-passed in terms of intellectual property and benefit sharing.
- The Fundamental disconnect between the TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights), which does not recognize traditional forms of ownership, and the Convention on Biological Diversity (CBD), which does recognise traditional forms of ownership, when seeking to protect Indigenous knowledge rights and benefits.

Presentation

Professor Gerard Bodeker gave a presentation *International research into Indigenous Medicine*. This presentation framed the discussion on traditional medicine within a human rights perspective as well as within the current high rates of morbidity and mortality of Indigenous Australians.

Professor Bodeker outlined the main themes underpinning Indigenous or traditional medicine internationally as well as discussing some of the leading research and research trends in this field. These include:

- Utilisation studies (patterns and profile of use; see for example, Maher RA; Australian Journal of Rural Health 1999; 7(4): 229-236).
- Pharmacological studies (most common being product development studies).
- Non-pharmacological studies (e.g. Tai Chi and falls; meditation and blood pressure).
- Genomics (e.g. of Traditional Ayurvedic Medicine).
- Application to priority communicable diseases (e.g. malaria, HIV).
- Application to degenerative diseases (cardiovascular disease, diabetes, cancer).
- Community-based prevention and management of common diseases, particularly amongst the worlds very poor; for both health benefits and poverty impact (health being a major expenditure item).
- Priority populations (e.g. maternal and child health – Alice Springs clinic as an example).
- Wellness.
- Models of integration (e.g. American Indian practices and Alcoholics Anonymous combined for greater effectiveness in reducing alcohol dependence).

Finally, Professor Bodeker proposed a framework going forward for research into Australian Indigenous medicine. Key elements include:

- Roadmap.
- Network.
- Data base.
- Special interest groups.
- Standard Operating Procedures (SOPs) and guidelines.
- Priority projects.
- Product development.
- Partnerships.

Professor Bodeker's presentation is available on the NICM website (www.nicm.edu.au).

Discussion

The remainder of the forum was opened up to discussion on five themes, being:

- Research linkages.
- Engaging with Indigenous communities.
- Knowledge, benefits and rights protection.
- Funding.
- Commercial pathways and outcomes for interested Indigenous communities.

Research linkages

- Participants noted that the forum was a unique opportunity to bring together researchers with a breadth of interest in the field, and the importance of a mechanism to maintain these links. There is currently no society or other process fulfilling this role in Australia. A research consortium was proposed as the mechanism to address this.
- The consortium would act as a core meeting point for the development and support of long term community-research relationships and provide a vehicle for activities such as sharing knowledge and information; guiding research activities; identifying and sharing key resources (e.g. information about regulatory systems); and leading development of issues papers. The consortium should articulate a set of operating principles and consider a working group structure to reflect and pursue various aspects of Indigenous Medicine research (e.g. education; health; IP; commercial/enterprise development).
- The consortium could look at a specialist working group model to facilitate collaboration in key areas (e.g. ethnography; pharmacology; public health; Traditional knowledge theory; IP)
- Key agencies and individuals to engage in developing the consortium concept included the National Aboriginal Community Controlled Health Organisation (NACCHO); the Desert Knowledge Cooperative Research Centre (DKCRC); the Cooperative Research Centre for Aboriginal Health (CRCAH); The Hon Jenny Macklin MP, Minister for Families, Housing, Community Services and Indigenous Affairs; Indigenous Business Australia (IBA); the Indigenous Land Corporation (ILC).
- Agencies not represented at the forum that were identified by participants as potentially having an interest in or adding value to the consortium included: Charles Darwin University; Botanic Gardens; Indigenous Harvest Australia; Indigenous Medicine Association; Darwin Library, which has received a Gates Foundation grant for linking communities and recording knowledge; and government health, research and regulatory agencies. A number of individuals were also identified, which will be added to the contact list developed by NICM as part of the consultation process.
- In addition to direct linkages, a lack of infrastructure and educational pathways were also identified as impediments to developing strong and enduring research relationships. For example, there is no undergraduate ethnobotany stream that can be pursued.

Engaging with Indigenous communities

- Research should be directed to the benefit of Indigenous communities with research agendas driven by Indigenous communities, rather than researchers.
- Fundamental principles identified by the meeting included: empowerment; partnerships; contributions and benefit sharing, the latter which should not be confined to commercial benefits; social relevance. Key values are trust, respect and cross-cultural understanding in any partnership with an Indigenous community.
- Relationship building with Indigenous communities can extend beyond formal research partnerships to other aspects of communities, e.g. education, and in fact may be the primary focus of interest for some communities.
- Building relationships takes significant amounts of time. The group noted that a consortium would help create a virtual team that could assist with key engagement issues and continuity for initiatives, which are currently undertaken in an isolated and ad hoc manner.
- Resources were identified which the consortium could link people to that would assist with engagement. For example, the Desert Knowledge CRC *Aboriginal Knowledge and Intellectual Property Protocol Community Guide*, a document that helps Aboriginal people and researchers work together more fruitfully, launched by the Aboriginal and Torres Strait Islander Social Justice Commissioner Tom Calma in late September. Others include the *Closing the Gap* report and IP Australia *Reconciliation Action Plan*.
- Federal Court decision *Grey v University of Western Australia* (IP and employment agreement) may adversely impact on the ability of researchers to engage with Indigenous communities.

Funding

- There is a need for a clear funding stream for research into Indigenous Medicine that:
 - Takes into account the timing, processes and approach that are critical to this sector;
 - Will enable research to be undertaken at different stages of the research cycle (e.g. fieldwork; proof of concept); and
 - Will allow a range of fields to be pursued (e.g. population health research, natural products research).
- The forum agreed that steps should be taken to establish a Foundation that could garner funds from a range of sources that would meet the needs outlined above.

Knowledge, benefits and rights protection

- Participants outlined examples where Indigenous communities have not been successful in receiving benefits from negotiations with pharmaceutical and other companies for accessing and developing products from Indigenous plants and medicines.
- Difficulties exist in protecting traditional knowledge through the intellectual property (IP) system:
 - There is an inherent conflict between the Convention on Biological Diversity (CDB) and the World Trade Organisation's Trade Related Aspects of Intellectual Property (TRIPS) Agreement on intellectual property.
 - In Australia, there is a prejudice within the patent system against granting property rights for complementary medicine as a patent cannot be gained by simply putting together a mixture of plant materials. Further, patenting systems are expensive and complex and may exclude some groups.
 - Geographical naming of traditional medicinal plants may lead to competing ownership claims over the same plant, although other industries offer models of managing this issue (e.g. mining).
 - Defensive disclosure is difficult due to the ability of organisations to patent minor variations in active molecules.
- Other options include utilising a trade secret approach and voluntary certification systems for communities interested in pursuing product and enterprise developments for development, employment and commercial outcomes. This is being explored by ANU based researchers Professor Peter Drahos and Dr Luigi Palombi. Voluntary certification systems such as the Fair Trade label are inexpensive; can avoid disclosure of medicinal knowledge while recognising the value of products; and are flexible and adaptable to local contexts. The possible limitation is it is not possible to be over-prescriptive about benefit distribution. It is likely that in the future, voluntary certification systems might be aggregated e.g. biodiversity, carbon, product values.
- Voluntary certification requires industry leadership and works on the basis of brand credibility.
- There is a need to focus on the aim of knowledge protection (commercial, social development/empowerment, health benefits) which may affect which avenue is explored.
- The forum agreed that it would be useful to have a paper developed on IP issues in Indigenous Medicine.

Outcomes

Professors Bodeker and Reid, as well as forum participants, commented on the high degree of consensus within the forum on the objectives, process and direction for Australian research in Indigenous Medicine research.

Participants developed, and strongly agreed upon, the following as outcomes from the forum:

- Establishment of a consortium to link researchers, communities and interested others that would provide a vehicle for activities such as sharing knowledge and information; guiding research activities; identifying and sharing key resources; and leading development of issues papers. The consortium should articulate a set of operating principles and consider a working group structure to reflect and pursue various aspects of Indigenous Medicine research (e.g. education; health; IP; commercial/enterprise development).
- Establishment of a Foundation to fund Indigenous Medicine research that would develop partnerships and garner resources from a range of public and private sources.
- Development of an IP issues paper.
- Work towards an initial consortium meeting in 2010, possibly in Alice Springs to align with and take advantage of the 2010 Cooperative Research Centre Association meeting being held there 26-28 May, 2010.

To achieve the forum goals, it was agreed that:

- NICM meet with the lead Indigenous agencies identified by the forum to determine their interest in the outcomes and seek advice on appropriate processes and strategies to give effect to them.
- The National Aboriginal Community Controlled Health Organisation (NACCHO) was identified as the appropriate first point of contact, and this meeting would be facilitated by Professor Bin-Sallik.
- Other agencies that should be consulted in the first developmental stage include:
 - The Desert Knowledge Cooperative Research Centre (DKCRC).
 - The Cooperative Research Centre for Aboriginal Health (CRAH).
 - The Hon Jenny Macklin MP, Minister for Families, Housing, Community Services and Indigenous Affairs.
 - Indigenous Business Australia (IBA).
 - Indigenous Land Corporation (ILC).
- NICM would provide a progress report back to forum participants in December 2009.

Appendix one

The following individuals and organisations participated in the forum:

- Emeritus Professor MaryAnn Bin-Sallik, Charles Darwin University
- Professor Gerard Bodeker, Global Initiative for Traditional Systems of Health, University of Oxford
- Ms Ruth Davies, Desert Knowledge Cooperative Research Centre
- Mr Ashley Dowell, Southern Cross University
- Professor Peter Drahos, Australian National University
- Associate Professor Louis Evans, Curtin University
- Dr Sue Evans, Southern Cross University
- Dr Olson Huff, Bent Creek Institute, North Carolina
- Associate Professor Joanne Jamie, Macquarie University
- Mrs Sharon Knight, Queensland Office of Health & Medical Research
- Mr Scott McNeill, Australian Institute for Commercialisation
- Mr Peter Mouatt, Southern Cross University
- Dr Luigi Palombi, Australian National University
- Professor Michael Reid, Queensland Health
- Mr Bradley Simpson, University of South Australia
- Dr Evelyn Tiralongo, Griffith University
- Ms Jan Twyford-Jones, Queensland Office of Health & Medical Research
- Associate Professor Subra Vemulpad, Macquarie University
- Professor Alan Bensoussan, National Institute of Complementary Medicine
- Ms Syvilla Boon, National Institute of Complementary Medicine
- Ms Suzanne Pierce, National Institute of Complementary Medicine

Apologies were received from the following organisations and individuals:

- Dr Mick Adams, National Aboriginal Community Controlled Health Organisation
- Dr Stephanie Agius, Itek Pty Ltd
- Professor Warwick Anderson, National Health and Medical Research Council
- Mr Peter Chesworth, Department of Industry, Innovation, Science and Research
- Ms Sue Coke, Biotechnology and Therapeutic Medicines and Devices
- Mr Kim Courtenay, TAFE WA, Kimberley
- Professor Donna Craig, University of Western Sydney
- Ms Jan Ferguson, Desert Knowledge Cooperative Research Centre
- Mr Mick Gooda, Cooperative Research Centre for Aboriginal Health (CRCAH)
- Mr Julian Gorman, Charles Darwin University
- Mr Craig James, Desert Knowledge Cooperative Research Centre
- Dr Phil Kerr, Charles Sturt University
- Professor Vivian Lin, La Trobe University
- Associate Professor Graham Lloyd-Jones, University of New England
- Dr Noni Luxford, University of New England
- Professor Ross McKinnon, University of South Australia
- Associate Professor Carol Morris, Southern Cross University
- Professor Ronald Quinn, Griffith University
- Mr Ronnie Reavell, University of New England
- Ms Donna Savigni, University of Western Australia
- Dr Susan Semple, University of South Australia
- Mr Joshua Smith, University of New England
- Mr Nicholas Smith, Nelumbo Botaniks
- Ms Delaney Thiele, National Aboriginal Community Controlled Health Organisation
- Professor Kenneth Watson, University of New England
- Mr Glenn Wightman, Northern Territory Herbarium
- Dr Hans Wohlmuth, Southern Cross University

Appendix two

Beijing Declaration

WHO Congress on Traditional Medicine, Beijing, China, 8 November 2008

Participants at the World Health Organization Congress on Traditional Medicine, meeting in Beijing this eighth day of November in the year two thousand and eight;

Recalling the International Conference on Primary Health Care at Alma Ata thirty years ago and noting that people have the right and duty to participate individually and collectively in the planning and implementation of their health care, which may include access to traditional medicine;

Recalling World Health Assembly resolutions promoting traditional medicine, including WHA resolution 56.31 of May 2003;

Noting that the term "traditional medicine" covers a wide variety of therapies and practices which may vary greatly from country to country and from region to region, and that traditional medicine may also be referred to as alternative or complementary medicine;

Recognizing traditional medicine as one of the resources of primary health care services to increase availability and affordability and to contribute to improve health outcomes including those mentioned in the Millennium Development Goals;

Recognizing that Member States have different domestic legislation, approaches, regulatory responsibilities and delivery models;

Noting that progress in the field of traditional medicine has been obtained in a number of Member States through implementation of the WHO Traditional Medicine Strategy 2002-2005;

Expressing the need for action and cooperation by the international community, governments, and health professionals and workers, to ensure proper use of traditional medicine as an important component contributing to the health of all people, in accordance with national capacity, priorities and relevant legislation;

In accordance with national capacities, priorities, relevant legislation and circumstances, hereby makes the following Declaration:

- I. The knowledge of traditional medicine, treatments and practices should be respected, preserved, promoted and communicated widely and appropriately based on the circumstances in each country.
- II. Governments have a responsibility for the health of their people and should formulate national policies, regulations and standards, as part of comprehensive national health systems to ensure appropriate, safe and effective use of traditional medicine.
- III. Recognizing the progress of many governments to date in integrating traditional medicine into their national health systems, we call on those who have not yet done so to take action.
- IV. Traditional medicine should be further developed based on research and innovation in line with the "Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property" adopted at the 61st World Health Assembly in 2008. Governments, international organizations and other stakeholders should collaborate in implementing the global strategy and plan of action.
- V. Governments should establish systems for the qualification, accreditation or licensing of traditional medicine practitioners. Traditional medicine practitioners should upgrade their knowledge and skills based on national requirements.
- VI. The communication between conventional and traditional medicine providers should be strengthened and appropriate training programmes be established for health professionals, medical students and relevant researchers.

Appendix three

Forum Background Issues paper

INDIGENOUS MEDICINE RESEARCH IN AUSTRALIA BACKGROUND PAPER FOR 23 SEPTEMBER 2009 FORUM

Prepared by Syvilla Boon for the National Institute of Complementary Medicine

INTRODUCTION

This paper summarises feedback from Australian and select international researchers that was received as part of preliminary consultations in Indigenous Medicine research that were commissioned by the National Institute of Complementary Medicine (NICM) in 2009.

NICM was established in June 2007 with seed funding from the Australian and NSW Governments and is hosted by the University of Western Sydney. The Institute was established to provide leadership and support for nationally coordinated and strategically directed research into complementary medicine and the translation of evidence into clinical practice and policy to benefit the health of all Australians.

'Complementary medicine' may incorporate traditional, alternate, complementary or integrative medicine knowledge and practices. As part of its capacity building remit, NICM is seeking to identify issues relevant to traditional medicine researchers and the communities that they work with, and following this, initiatives (if any) that could be undertaken to support researchers and communities with associated health, economic and educational opportunities directed to the benefit of traditional owners.

In addition to mapping research activity, NICM has sought to identify resources relevant to Indigenous Medicine research, both in Australia and internationally, and has consulted with Australian researchers to identify what issues exist in this area of research. This issues paper is the culmination of this consultation process to date. Consultation with Indigenous communities¹ interested in this area of research is being considered as a second stage of activity, but is subject to further feedback and advice on relevance and appropriate timing and processes.

This paper is not intended to be exhaustive. It provides background and context for a researcher focused forum being held in Australia in September 2009. The forum will canvas key issues identified to date, which include:

- Links between researchers working in this field.
- Appropriate engagement with Indigenous communities.
- Knowledge, benefits and rights protection.
- Funding cycles and sources.
- Commercial pathways and outcomes for interested Indigenous communities.

¹ For the purpose of this paper, the terms 'Indigenous communities' and 'Aboriginal and Torres Strait Islander peoples' will be used interchangeably when referring to the Indigenous peoples of Australia.

1. BACKGROUND

Definition of Indigenous Medicine Research

For the purpose of this paper, Indigenous Medicine refers to the traditional medicine of the Aboriginal and Torres Strait Islander peoples who are native to Australia. This paper adopts the definition of traditional medicine from the World Health Organisation (WHO) *General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine*:

Traditional medicine is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.

²

Examples of Indigenous Medicine may include traditional midwifery practices among Aboriginal and Torres Strait Islander peoples or the use of Australian herbal medicines.

Within this paper, research on Indigenous Medicine is broadly defined to include any research that relates to the traditional medicine of Aboriginal and Torres Strait Islander groups in Australia.

Indigenous Medicine Researchers in Australia

Indigenous Medicine research is being undertaken at various locations across Australia. Those identified in the course of consultations include:

- Charles Darwin University
- Charles Sturt University
- Curtin University
- Griffith University
- Macquarie University
- Southern Cross University
- University of New England
- University of South Australia
- University of Western Australia

In addition, allied research work such as cultivation trials of bush foods with medicinal properties is being undertaken at the Kimberley TAFE and also through the Royal Botanic Gardens, Sydney.

Based on the consultations to date, Indigenous Medicine research in Australia appears to focus largely on Australian botanical plants and confirming or determining the properties of these plants. This differs from research in other countries such as Canada where research includes topics such as traditional Indigenous healing practices and Aboriginal midwifery.³

Details of the Australian researchers and their projects identified by NICM will be available at the forum.

² See http://www.who.int/topics/traditional_medicine/en/.

³ See the National Aboriginal Health Organisation available at www.naho.ca.

Australian Indigenous Communities Active in Research

A number of communities have been identified by researchers that have been active in Indigenous Medicine research. These include:

- Chuulangun Aboriginal Corporation
- Far West Coast Aboriginal Community, South Australia
- Jarlmadangah Burru Aboriginal Community
- Kimberley Land Council
- Kimberley Tjutjunaku Worka Tjuta Inc, Ceduna
- Leonora, Jaru, Gidja and Mirriuwong Communities
- Mangana Nation, Kimberley
- Northern NSW Aboriginal communities
- Nyikina Nation, Kimberley
- Ramingining Homelands Resource Centre Aboriginal Corporation
- Tjupan Ngalia Tribal Aboriginal Corporation Leonora

No contact has been made with representatives of Indigenous communities to date. This will be subject to feedback from the September 2009 research forum and input from key agencies working with communities, including the Desert Knowledge CRC, the CRC for Aboriginal Health and the National Health and Medical Research Council. As part of this, consideration needs to be given to the value and results that might flow from engagement and to ensure any work with communities is culturally sensitive and conducted in manner that will ensure that their perspective and interests are paramount and fully considered.

Indigenous Medicine Research Internationally

This preliminary project identified a significant amount of research being undertaken on an international basis, particularly in countries and regions with large Indigenous populations and strong traditional medicine practices such as sub-Saharan Africa and Asia. Research is also being conducted in countries with smaller populations of Indigenous peoples such as New Zealand, Canada and the USA.

Traditional medicine practice and research is strongly established as part of the public health infrastructure in China and many Asian nations and hence is not described in this brief overview. The World Health Organisation maintains a strong platform and support mechanisms for the development and promotion of traditional healing practices worldwide, including the adoption of the Beijing Declaration in 2008.

As part of this project, researchers were contacted at the following institutions and countries:

- Institute for Ethnomedicine, USA
- Royal Botanical Gardens, UK
- Smithsonian Institute, USA
- The New Zealand Institute for Plant & Food Research Limited, New Zealand
- University of Auckland, New Zealand
- University of London, UK
- University of Michigan-Dearborn, USA
- University of Montreal, Canada
- University of Ottawa, Canada
- University of the Western Cape, South Africa

2. AUSTRALIAN AND INTERNATIONAL RESOURCES TO SUPPORT INDIGENOUS MEDICINE RESEARCH

Many organisations provide resources, policies and/or funding in the area of Indigenous Medicine research, both internationally and in Australia. Examples of these organisations include the World Health Organisation, international societies such as the International Society for Ethnopharmacology⁴, which is affiliated with the Journal of Ethnopharmacology, to organisations like Call of the Earth⁵, which focuses specifically on providing intellectual property resources to Indigenous peoples. This paper does not exhaustively list all organisations that provide resources, funding or policy guidelines in the area of Indigenous Medicine research. Details of some organisations, however, are outlined below which have been selected on the basis that they provide resources that may be unfamiliar to researchers or Indigenous communities and that may be useful given the particular issues that are faced in the Australian research landscape. A more extensive list of organisations will be available at the forum.

World Health Organisation

The World Health Organisation has developed a number of policy documents and guidelines that relate to traditional medicine including the recently adopted Beijing Declaration, which will serve to promote the safe and effective use of traditional medicine and to call on WHO Member States and other stakeholders to take steps to integrate traditional medicine into national health systems.

National Aboriginal Health Organisation (NAHO), Canada

An Aboriginal-designed and -controlled body committed to influencing and advancing the health and well-being of Aboriginal Peoples by carrying out knowledge-based strategies. NAHO develops policy frameworks to support and guide Indigenous Medicine research and practice in Canada.

UNESCO Best Practices on Indigenous Knowledge

This publication, a co-product of Nuffic-CIRAN and UNESCO's Management of Social Transformations Programme (MOST), is a contribution to all those efforts to show how indigenous knowledge (IK) can be put to good use in development practice. CIRAN selected 27 best practices in the field of indigenous knowledge for inclusion in the UNESCO-MOST database. These best practices are an illustration of the use of indigenous knowledge in cost-effective and sustainable strategies which may help poor people in their daily struggle for survival. The practices may also provide excellent guidelines for development planning, as they may give policy makers and development practitioners a deeper insight into the ecological and cultural complexity of sustainable development).

National Institute of Health, United States of America

Centre for Complementary and Alternative Medicine Research (NCCAM - NIH) – Office of International Research. NCCAM activities include:

- Developing program initiatives to advance the understanding of traditional medical systems and CAM medical practices with the potential to benefit populations overseas and in the U.S.
- Facilitating the establishment of international research collaborations and research training programs to assist institutions and researchers in building capacity and carrying out important research involving CAM practices and traditional medical systems.

Fogarty International Centre – International Cooperative Biodiversity Group Program

- This program provides funding for international projects that addresses the interdependent issues of drug discovery, biodiversity conservation, and sustainable economic growth.

⁴ See <http://www.ethnopharmacology.org>. Last accessed 19 May 2009 at 7:27pm AEST.

⁵ See <http://www.earthcall.org/>. Last accessed 19 May 2009 at 7:27pm AEST

- It is designed to guide natural products drug discovery in such a way that local communities and other source country organisations can derive direct benefits from their diverse biological resources.

American Association for the Advancement of Science (AAAS), United States of America

The AAAS has developed a Handbook on Traditional Knowledge and Intellectual Property as well as a Traditional Ecological Knowledge Prior Art Database. The latter is an index and search engine of existing Internet-based, public domain documentation concerning indigenous knowledge and plant species uses. It is meant to be used by anyone researching traditional ecological knowledge, including scientists, health professionals, and those involved in the patent application process itself. In addition to information already in the public domain, T.E.K.* P.A.D. allows for the option of defensive disclosure, for traditional knowledge holders who wish to place information in the public domain in order to pre-empt patenting by others.

United Nations University Traditional Knowledge Initiative, Australia

The United Nations University (UNU), a United Nations (UN) agency and think-tank for the UN system, is in the process of establishing a Traditional Knowledge Institute (TK Institute) in Australia. The UNU TK Institute aims to promote and strengthen research on traditional knowledge of indigenous and local communities conducted from a global perspective, grounded in local experience. The Institute is being developed into a world-class centre of excellence, promoting indigenous research and development, and providing significant practical benefits to the indigenous people of the world.

Resources provided by the Institute include the UNU-IAS Bioprospecting Information Resource which includes details of research and commercialised products arising from biological samples that were sourced from various regions. Details of all activities registered with the database are collected and collated by UNU-IAS staff and through collaborative research. Records are available through a comprehensive search facility and include all relevant information.

3. ISSUES IN INDIGENOUS MEDICINE RESEARCH

Consultations with Australian and international researchers working in Indigenous Medicine raised a range of issues, which are described and categorised under the following headings:

- Research linkages
- Engagement with Indigenous communities
- Knowledge/benefits/rights protection
- Funding
- Commercial pathways and other outcomes

The remainder of this paper summarises these issues, and where appropriate, provides examples of how these issues have been managed or resources that may be available to assist researchers and Indigenous communities.

3.1. RESEARCH LINKAGES

It appears that Australian research in the area of Indigenous Medicine tends to be undertaken by an individual or a small group of researchers at a university, with vast distances between universities and institutions across Australia. While connections do exist between researchers on an informal basis, not all researchers in Australia are aware of each other and no formal network exists to bring researchers together on a regular basis. Connections with international researchers also seem to be limited.

As a corollary, awareness of the resources available to researchers (and communities) in Indigenous Medicine appears to be limited. For example, a number of researchers perceived there to be a lack of resources for Indigenous Medicine research. This included guidelines/support on issues facing researchers such as IP and engagement with Indigenous communities.

In addition, there appears to be a lack of critical mass in Australia in Indigenous Medicine research. Some researchers have good national and international connections, however others work in a small group or individually and without strong connections to other researchers or organisations, either nationally or internationally. Some international researchers commented on the lack of Australian presence at international conferences in this field or representation in international journals.

Forum discussion prompts

- Is there a need for an Australian virtual network for research into Indigenous Medicine?
- Is there a need for a clearinghouse mechanism for policies, resources and guidelines on Indigenous Medicine?
- Who is best placed to lead or support mechanisms?

3.2 ENGAGEMENT WITH INDIGENOUS COMMUNITIES

Researchers consulted consistently commented upon the importance of successfully engaging with Indigenous communities and the difficulties that may arise in doing so. Research was seen to be most successful when driven by Indigenous communities, rather than researchers, and the relationship between researchers and Indigenous communities is understood to be critical. However, researchers commented that relationship building takes years and is time and resource intensive. Funding, moreover, is not usually available for this process.

Issues identified by researchers included:

- Occasional disagreements between and within Indigenous communities on research being undertaken, its uses and who can or should be involved or benefit.
- That it is not always clear who the 'gate-keeping' authorities are in Indigenous communities.
- Critical difference in timing between researcher and Indigenous community timelines, the former often being critical to obtaining or meeting funding requirements, but insufficient to effectively and appropriately engage communities. This is dealt with in section 3.4 below.

Discussions with international researchers also revealed mixed views on research to validate efficacy of traditional medicines. For some communities and individuals, for example, these medicines are often believed to be efficacious and the administration of a traditional medicine has a strong spiritual component to it which is not always replicated in research. Some Australian researchers indicated that similar sentiments have been expressed among Aboriginal and Torres Strait Islander people in Australia. However, research that seeks to validate the efficacy of traditional medicine as part of a commercialisation pathway is often well accepted among Indigenous communities.

Consultation with Australian and international researchers not surprisingly indicated that Indigenous communities are interested in research where the benefits for the community are apparent to them; for example, by ensuring the continuation of traditional knowledge or language, by developing enterprise opportunities in communities or by applying traditional medicine to new diseases suffered by Indigenous people.

Box 1 International Resources

Various organisations internationally and in Australia have produced resources to guide Indigenous communities and researchers on Indigenous Medicine research. Resources can include databases of traditional knowledge, guidelines on the protection of intellectual property as well as other approaches to the conservation of traditional knowledge in Indigenous communities. While these can be very useful, the resources are often disaggregated across the internet. Examples of useful publications include:

- WHO - Guidelines for Methodologies on Research and Evaluation of Traditional Medicine
- Desert Knowledge CRC - Scoping Paper on Traditional Knowledge
- National Aboriginal Health Organisation (NAHO) - Traditional Knowledge Toolkit
- NAHO – Traditional Medicine in Contemporary Contexts
- NAHO – Aboriginal Midwifery
- Netherlands Organisation for International Cooperation in Higher Education/ Indigenous Knowledge - Database of Best Practice on Indigenous Knowledge

There are also various international conferences and associations that include Indigenous Medicine research such as:

- First Nations Trust International Healing Conference
- Global Summit on HIV/AIDS, Traditional Medicine and Indigenous Knowledge
- World Conference on Medicinal and Aromatic Plants

Box 2 Ethical engagement with Indigenous peoples in research

The Canadian National Aboriginal Health Organisation (NAHO) offers toolkits on subjects such as traditional knowledge, ethics and research that are directed to Indigenous peoples in Canada as well as a number of policy documents on Indigenous Medicine. As an Indigenous controlled and designed body that also funds research, NAHO is able to effectively engage with Indigenous communities. While NAHO does not conduct research on Indigenous Medicine, NAHO assists communities who are engaged in research on Indigenous Medicine in developing the appropriate mechanisms and policies to govern that research. For example, NAHO, through its Inuit-specific centre of excellence, *Inuit Tuttarvingat*, and the National Inuit Organisation, *Inuit Tapiriit Kanatami*, is part of *Inuit Nipingit*, the National Inuit Committee on Ethics and Research. *Inuit Tapiriit Kanatami* has also developed a guide for researchers entitled 'Negotiating Research Relationships: A Guide for Researchers' and one for communities entitled 'Negotiating Research Relationships: A Guide for Communities.'

Forum discussion prompts

- What mechanisms would assist to build better relationships with Indigenous communities and researchers? For example, is bringing researchers and Indigenous communities together through culturally appropriate forums or a central Aboriginal and Torres Strait Islander-controlled body to govern research on Indigenous Medicine of value?
- Are our current protocols governing research on Indigenous Medicine adequate?
- Are the resources such as those listed above sufficient and readily available and promoted to researchers entering the field?

3.3 KNOWLEDGE, BENEFITS and RIGHTS PROTECTION

A significant issue that researchers discussed was how best to protect Indigenous medicinal plant knowledge. Researchers highlighted the competing concerns that are present in Indigenous knowledge protection:

- How to protect traditional knowledge without compromising its intellectual property (IP) and potential commercial value.
- How to protect knowledge in a way that is culturally appropriate. For example, some Indigenous Medicine may be secret or may only be accessible to certain members of the Indigenous community such as Aboriginal elders.
- How to maintain a scientific publication record while meeting the commercial or other interests of Indigenous communities in protecting knowledge.

It is noted that a large amount of Indigenous medicinal plant knowledge is present in the public domain. While this ensures the preservation of Indigenous knowledge, the information is disaggregated across various publications and internet sites. International researchers in particular commented that these databases (and publications) can be difficult to access, which can limit collaborative research in this field.

With respect to securing IP protection of Indigenous Medicine, particularly for commercial outcomes, a number of potential obstacles were commented upon. These included the difficulty of establishing exclusive ownership of IP (to the exclusion of other Indigenous communities), the costs incurred in IP protecting including legal fees and patenting costs and the perception that there is a general lack of clear and simple guidelines in this area.

Box 3: Traditional knowledge databases

Many organisations around the world have established databases that include details of traditional knowledge and that may extend to medicinal plant use. Examples of these databases include:

- UNU-IAS Bioprospecting Information Resource (maintained by the United Nations University Institute of Advanced Studies)
- Traditional Ecological Knowledge Prior Art Database (maintained by the American Association for the Advancement of Science)
- Alaskan Traditional Knowledge and Native Foods Database (maintained by the Alaskan Native Science Commission)

Goals for such databases include the preservation of knowledge otherwise deemed to be lost and the option of defensive disclosure, for traditional knowledge holders who wish to place information in the public domain in order to pre-empt patenting by others. In a recent paper, Dr Julian Gorman along with his colleagues at Charles Darwin University, Professor Tony Cunningham and Professor Stephen Garnett, has suggested that 'People's Biodiversity Registers' be developed in desert Australia (see Cunningham, A., Garnett, S. & Gorman, J. (2009). Policy lessons from practice: Australian bush products for commercial markets. *GeoJournal*, 74(5). The databases listed above are publicly accessible via the internet. However, other databases may be established which have restricted access.

Box 4: IP and traditional knowledge

The American Association for the Advancement of Science has prepared a handbook on Intellectual Property and Traditional Knowledge that is accessible via the internet. Other organisations have produced resources on IP and traditional knowledge including information on agreements reached by Indigenous communities. To support the work of the World Intellectual Property Organisation Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, the United Nations University – Institute of Advanced Studies Traditional Knowledge Initiative (UNU-IAS TKI) is compiling an annotated collection of traditional knowledge protocols.

The compilation will be accompanied by an analysis of trends in protocol development. It will also be accompanied by a practical guide for those wishing to better understand the mechanics and role of traditional knowledge protocols. By bringing together an array of protocols in the one place, it is expected that UNU will be better able to identify changing understandings and framings of traditional knowledge by communities, external institutions, governments and others. The initiative will consider the types of consultative processes being used in protocol development and the main decision points that those developing protocols face. While there are many examples of protocols or codes of conduct or ethics by research institutions and others, there are fewer widely known and publicly available examples of protocols that have been designed and implemented by local or Indigenous communities.

Forum discussion prompts

- How can researchers work with Indigenous communities to best protect traditional knowledge?
- Are researchers and Indigenous communities aware of all the options that exist to protect traditional knowledge? Are researchers and Indigenous communities aware of the relationship between the law and traditional knowledge?
- Is funding available to protect traditional knowledge?
- What are the most effective mechanisms to guide researchers and communities on the steps that need to be taken to protect traditional knowledge?

3.4 FUNDING

Discussions with researchers, nationally and internationally, often mentioned funding difficulties in the field of Indigenous Medicine. Some researchers had difficulty sourcing funding per se while others commented that the funding process did not take into account the significant time devoted to building relationships with Indigenous communities or that the timeframes for Indigenous communities differed from those of grants. Moreover, researchers commented that grants often required publications while research that was commercial in focus prevented disclosure of research outputs.

Consultations with Australian researchers indicated that research funding is not available for the 'proof of concept' work surrounding ethnobotanical research; for example, in determining the distribution of native plants and the yield of active compounds in each plant sampling.

It is noted that research grants are available through organisations such as the National Health and Medical Research Council (NHMRC) which are specifically focused on commercial outcomes. For example, the NHMRC Development Grants support the commercial development of a product, process, procedure or service that if applied, would result in improved health care, disease prevention or provide health cost savings.

Further, bodies such as the National Institutes of Health provide funding that may be accessed internationally and in areas including complementary medicine. It should be noted, however, that this funding is not generally focused at commercialisation of research.

In addition, Aboriginal and Torres Strait Islander people's health forms a priority dataset for the NHMRC. To this end, it would be interesting to explore research on Indigenous Medicine and Aboriginal and Torres Strait Islander people's health, as is illustrated in the box below.

Box 5: Diabetes and the Cree nation

Health Canada is supporting research investigating the use of traditional medicinal plants in the treatment of diabetes by the Cree nation of northern Quebec. According to Dr. Pierre Haddad, one of the key project researchers, "It is important to explore ways of dealing with diabetes that are in harmony with Aboriginal peoples' culture and lifestyle. Medicinal plants represent a timely and worthwhile avenue to explore." In collaboration with Cree healers, researchers will select a number of medicinal plants that show potential for treating the symptoms of diabetes and that are generally regarded as safe. Extracts will be taken from the selected plants and prepared in a traditional manner. They will be assessed for both their chemical and antioxidant properties. The plant extracts will then be fed to rats specially bred to be prone to diabetes. The rats will then be monitored over time to see whether their diabetes symptoms are affected by the plant extracts. Researchers will also look for any signs of toxicity resulting from the plant extracts. In addition, surgically removed rat pancreas and insulin-sensitive tissues such as liver, muscle and fat tissue will be exposed to the extracts to see how they respond. Dr. Timothy Johns at the Centre for Indigenous Peoples' Nutrition and Environment at McGill University, in collaboration with the Cree Council of Health and Social Services of James Bay, will then initiate a diet survey within the Cree communities. This survey will help identify ways to incorporate plant preparations in ways that are popular with the Cree. For example, plant products in the form of teas, skin creams, tinctures, and in sachets for addition to food, are most often used by the Cree. They tend not to use the kinds of herbal tablets and capsules that are quite popular in southern Canada.

Forum discussion prompts

- What funding sources are researchers aware of, nationally and internationally?
- Is this information accessible, or is there a need for a website that links to all funding in the area of Indigenous Medicine?
- Does or can funding take into account the differences in timelines for Indigenous people? If not, what mechanisms exist or might be developed that would assist with the disjunct between the time needed to appropriately engage with a community and customary research project timeframes?
- What international funding is available specifically for Indigenous Medicine research?

3.5 COMMERCIAL PATHWAYS and OTHER OUTCOMES

Researchers discussed the desired outcomes of their research which focused mainly on delivering benefits to Indigenous communities. Some researchers expressed difficulties at generating commercial outcomes for research, due to issues surrounding securing IP, funding for the commercial pipeline as well as lack of expertise in understanding the commercial process. Moreover, some Indigenous communities are uncertain, disinterested or mistrustful of the commercial process which can cause additional difficulties. Other researchers, however, have engaged effectively for this purpose.

Some researchers seek to build capacity in Indigenous communities through their research by developing Indigenous enterprise that may take the form, for example, of commercial cultivation trials of Indigenous botanicals. Such a process is time and resource intensive, however, and researchers may not receive funding for this aspect of their work. An example of a project that has successfully generated commercial enterprise in Indigenous communities and utilises medicinal bush food is shown below.

Box 6: Commercial enterprise and the gubinge

A project investigating the cultivation of a gubinge in the Kimberley and Top End of the NT is being driven through TAFE training and collaborations with government agencies and traditional owners. The WA Department of Environment and Conservation (DEC) along with the Department of Agriculture and Food (DAFWA) and Charles Darwin University (CDU) in the NT are currently supporting the initiative to investigate cultivation models for the fruit, known in Broome as gubinge and as Kakadu plum in the NT. In the early 1980s nutritional studies of bush foods across the North by the Australian Army accompanying the Bush Tuckerman television series found *Terminalia ferdinandiana* (its botanical name) to contain the highest levels of vitamin C of any fruit in the world. More recently the fruit has been found to also contain high levels of antioxidants mooted as having anti-aging, immune system boosting and even cancer fighting qualities. Research work carried out by CDU two years ago revealed there were 17 major health and cosmetic companies worldwide interested in trialling gubinge fruit in new product development. The emerging industry was largely instigated by the Sydney based company Coradji who have established international markets and patented a technique which turns the fruit into a powder while maintaining the high levels of natural vitamin C. Since 2003 Coradji have purchased wild harvested fruit from licensed pickers paying between ten and twenty dollars a kilo. But the supply has consistently fallen short of their targets of around 12 tonnes a year. In 2007 a forum on the emerging gubinge industry was organised by the WA Department of Agriculture and hosted at the Kimberley College of TAFE, Broome Campus. It brought together major players in the industry from around the country. The forum established conclusively that the development of the industry and its security is at risk because of a lack of local supply. It also acknowledged there are concerns about the environmental impacts of wild harvesting on sensitive areas of bush. It concluded that cultivated plantations, based on organic principals that preserved natural biodiversity presented a way forward for the industry. The concept known as 'enrichment planting' is currently being trialled through a practical training program run through the Kimberley College of TAFE, Broome Campus.

Little discussion was held with researchers around the translation of Indigenous Medicine research into better health outcomes for Aboriginal and Torres Strait Islander people. Given that the improvement of health outcomes for Aboriginal and Torres Strait Islander people remains one of the NHMRC's priority areas, however, this might be an area that researchers may wish to explore.

Forum discussion prompts

- What are or should be the core goals of research into Indigenous Medicine?
- How can Indigenous Medicine be better translated into benefits for Indigenous communities? How is Indigenous Medicine integrated into medicinal practices in other countries?
- What resources are available for researchers and Indigenous communities in order to successfully develop, and build upon, commercial enterprise?
- What successful models of commercial enterprise exist?